



THE SUSTAINABLE  
DEVELOPMENT  
GOALS  
CENTER FOR  
AFRICA

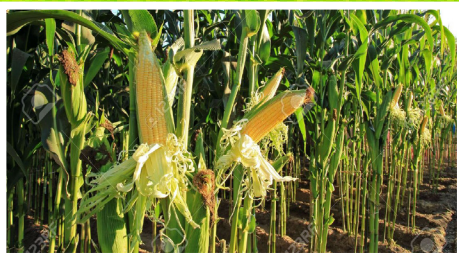
# CONFERENCE REPORT

## Transformation of Agriculture in Zambia

03 – 04 December 2019

Mulungushi International Conference Centre

Lusaka, Zambia





## TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS .....	I
1.0 INTRODUCTION AND BACKGROUND.....	1
1.1 RATIONALE.....	1
1.2 OBJECTIVES, ACTIVITIES AND EXPECTED OUTCOME.....	2
2.0 CONFERENCE PROCEEDINGS .....	4
2.1.1 OFFICIAL LAUNCH OF THE CONFERENCE .....	4
2.1.1.1 Context Setting, National Anthem and Prayer.....	4
2.1.1.2 Welcome Remarks to Delegates by Hon. Minister of Agriculture.....	5
2.1.1.3 Statement by the Minister of Fisheries and Livestock .....	6
2.1.2 MAIN CONFERENCE PRESENTATIONS .....	7
2.1.2.1 Key messages from the presentation on the State of Zambian Agriculture.....	7
2.1.2.2 Key messages from the presentation on Agriculture Extension Systems and Skills Development through TVET.....	8
2.1.2.3 Plenary Session .....	11
2.1.3 BREAKOUT DISCUSSIONS.....	13
2.2.1 REPORTS FROM BREAKOUT SESSIONS BY THEMATIC AREAS.....	14
2.2.1.1 Report from Input/ Output Demand and Supply Systems Team.....	14
2.2.1.2 Report from Extension System and Skills Development Team.....	15
2.2.1.3 Report from Research Systems Team .....	16
2.2.1.4 Panel Discussion.....	19
2.2.2 CONFERENCE RESOLUTIONS.....	22
2.2.3 CONCLUDING REMARKS .....	24
2.2.4 CLOSING REMARKS .....	25
ANNEX .....	27



## ACRONYMS AND ABBREVIATIONS

CSO	Civil Society Organizations
CGIAR	Consultative Group on International Agricultural Research
FISP	Farmer Input Support Programme
FTC	Farmer Training Center
FAO	Food and Agriculture Organization of the United Nations
IAPRI	Indaba Agriculture Policy Research Institute
MoA	Ministry of Agriculture
MFL	Ministry of Fisheries and Livestock
MNDP	Ministry of National Development Planning
NGO	Non-Governmental Organizations
SADC	Southern Africa Development Community
SDGs	Sustainable Development Goals
SDGCA	Sustainable Development Goals Center for Africa
UN	United Nations

## 1.0 INTRODUCTION AND BACKGROUND

The Sustainable Development Goals Center for Africa (SDGC/A) is an autonomous non-for profit international organization, which became operational on 1<sup>st</sup> July, 2016. The Center's guiding mission is to assist all African countries in achieving their national and subnational targets for the Sustainable Development Goals by 2030. This goal is shared by all African leaders and aligned to the UN's post-2015 goals as well as the AU's 2063 agenda. The SDGC/A's main engagement and intervention areas are: SDG planning, costing, tracking and reporting, SDG financing and governance, setting the agenda for policy dialogue focusing on but not limited to health, education, water, food security and nutrition, and agriculture revolution. Key modalities include the Center's engagement on global forums and espousing synergies and partnerships of key stakeholders.

As part of the SDGC/A's strategy to expand its outreach to all corners of Africa, its first Sub-Regional Center that covers the Southern Africa Region was launched on 7<sup>th</sup> August 2019 in Lusaka, Zambia. The official launch followed the signing of the "Host Country Agreement" in September 2018 between the Government of the Republic of Zambia and the SDGC/A as a continuation of the Center's commitment to accelerating the implementation of the 2030 Agenda for Sustainable Development throughout Africa. The Sub-Regional Center will support the Southern African countries in accelerating their achievement of the Sustainable Development Goals (SDGs), with more focus on regional priorities and challenges.

The full day's launch event of the Sub-Regional Center for Southern Africa included discussions of the key flagship projects including transformation of the agriculture sector given its critical role in the economy of Southern Africa Region. The SDGC/A Sub-Regional Center for Southern African will customize and foster home-grown solutions for the SDGs.

In a follow up meeting between the President of Zambia, His Excellency, Edgar Chagwa Lungu, and the Director General of the SDGC/A, Dr Belay Begashaw, it was agreed that agricultural transformation should become the maiden project for Zambia. This is also consistent with the Government's policy to diversify the economy away from over-dependence on mining to agriculture. The SDGC/A Sub-Regional Center for Southern African in collaboration with the Government of the Republic of Zambia (Ministry of Agriculture [MoA], Ministry of National Development Planning [MNDP] and Ministry of Fisheries and Livestock [MFL]), jointly organized a two-day agriculture transformation conference in Lusaka from 3<sup>rd</sup> to 4<sup>th</sup> December, 2019 under the theme "Transformation of Agriculture in Zambia". The conference was meant to set an agenda for policy dialogue about restoration of the central role of agriculture in Zambia's social and economic development. Zambia is one of the few African countries with enormous untapped agricultural potential (land, water, labor) yet only about 15% of the arable land is under cultivation.

### 1.1 RATIONALE

Thirty-one African countries are assessed by the Food and Agriculture Organization of the United Nations (FAO) to need external assistance for food. While that list excludes Zambia, the food security situation has been severely hampered by the climatic conditions, in particular the dry spells. The current estimates reveal that 954,000



Zambians (10% of the rural population) are food insecure. The situation is likely to worsen with the main staple food maize projected to decrease by 16% to 2 million tons, resulting in a second consecutive below-average harvest, following severe rainfall deficits in key producing regions. Maize productivity of slightly over 2 metric tons per hectare currently being registered is still below projected yield potential of 6 metric tons per hectare. In a predominantly rural country where 55% of population (9.7M) is rural-based, agriculture growth is essential for the resilience of the rural people whose main livelihood depends on agriculture. Despite the significance of the agricultural sector, its contribution to Gross Domestic Product (GDP) has remained in single digits annually since 2006. The total contribution of agriculture to GDP averaged 9.8% in the period 2006 to 2015. With a fast-paced population growth of 3% per annum, food insecurity challenge remains heightened in the current business as usual scenario. As such, poverty and inequality remain pronounced in Zambia, with 57% of the population living on less than USD 1.99 per day. The country has one of the highest Gini coefficients (measure of inequality) in Africa of 0.57. The sluggish agricultural sector performance manifests itself further in high levels of stunting, malnutrition, low foreign exchange earnings, low household incomes. Downside risks are likely to remain pronounced if the situation remains unabated. The pathway for improvements in human development and structural transformation is contingent upon addressing a wide realm of structural constraints in the agricultural sector including poor inputs, dependence on low-value products, predominance of small-scale and subsistence farming, limited irrigation and weak agricultural production systems.

## 1.2 OBJECTIVES, ACTIVITIES AND EXPECTED OUTCOME

The overall objective of the conference was to steer knowledge-sharing towards holistic dialogue and development of a plan for the transformation of the agriculture sector in Zambia in order to enable the country meet its food demand within three years (2020-2022) and to lay the foundation for food exports in the medium term. The focused outcome of the conference was a roadmap for Zambia's Agricultural Transformation. Improving agricultural productivity is central to the transformation agenda which inter alia includes restructuring the extension and research system; establishing functioning inputs and outputs marketing systems; skills development for farmers and extension agents; reorientation and modernization of agricultural research capacities to address climate change and its consequences; and developing other financial and cooperative supporting systems to help expedite the transformation of subsistence agriculture to commercial.

In the medium term, the goal is to foster production of globally competitive agricultural products for export while ensuring national food security and increased household incomes. The key components of the transformation agenda include:

- dissemination of extension packages for selected staple crops such as maize, cassava, wheat, livestock/ fisheries value chains and working with farmers in selected districts situated in different agro-ecological zones with crop production and livestock and fisheries potential;
- developing institutional basis for seed and fertilizer industries in order to sustain seed production and fertilizer supply system;



- working on the input, output marketing support system, which includes linkage with the private sector, cooperatives and other key stakeholders as well as access to finance to support commercial agriculture transformation;
- training of extension agents with Technical Vocational Education Training (TVET) consisting of 60-40 curriculum for a diploma and 80-20 for a green certificate for would-be business farmers that will specialize in high-value crops and livestock production;
- designing an extension approach that will ensure adequate skills and advice for farmers who will specialize on surplus for market production;
- increasing awareness of resilience to climate change and extreme events while building a climate change-resilient food system and sharing best practices on resilient experiences and mitigation measures including green water interventions. This also entails understanding of shared responsibility, risks, risk perceptions, risk strategies and other technological remedies across the value chain; and
- generating a comprehensive dialogue on policy and regulatory gaps for the required transformation including land reforms.



## 2.0 CONFERENCE PROCEEDINGS

### 2.1 DAY ONE OF THE CONFERENCE

#### 2.1.1 OFFICIAL LAUNCH OF THE CONFERENCE



*The conference was officiated by the Minister of Fisheries and Livestock (2-L) and the Minister of Agriculture (3-L) on behalf of the Government of Zambia*

The conference attracted over 200 delegates. The opening ceremony was presided over by two Cabinet Ministers, the Minister of Agriculture and the Minister of Fisheries and Livestock who launched the event and explicated the political commitment for the transformation of agriculture in Zambia. The Permanent Secretaries from the Ministries of Agriculture, Fisheries and Livestock and National Development Planning were also in attendance. The conference was attended by delegates from public and private sectors, agriculture stakeholders (including cooperatives, agro-processors and input suppliers), the Consultative Group on International Agricultural Research (CGIAR), national and regional agriculture research organizations as well as academia, the United Nations (UN) agencies such as the Food and Agriculture Organization (FAO) and multi-lateral as well as bilateral partners with specialized focus on agriculture reform, SADC and other sub-regional organizations, farmers, representatives from the youth and women.

##### 2.1.1.1 Context Setting, National Anthem and Prayer

The Director of ceremonies introduced the conference agenda setting the context for day one. The conference officially started with delegates singing the National Anthem which was followed by an opening prayer.



### 2.1.1.2 Welcome Remarks to Delegates by Hon. Minister of Agriculture



*Hon. Michael J. Katambo, MP, Minister of Agriculture delivering his welcome remarks*

The Minister of Agriculture, Hon. Michael J. Katambo, MP, welcomed all the delegates to the conference on the ‘Transformation of Agriculture in Zambia’. A special welcome was given to the Director General of the Sustainable Development Goals Center for Africa, Dr Belay Begashaw and his team. The Minister thanked all the delegates for responding positively to the invitation as this was a clear manifestation of a joint aspiration to transform the agriculture sector in Zambia. He also reaffirmed the objective of the conference, which was to bring all key stakeholders together to discuss the challenges affecting the sector and to propose concrete and realistic plans to accelerate the transformation that all aspire. He pointed out that the focus of the conference is to reflect on actions that will contribute positively to the profitability of agribusinesses, job creation, income generation, poverty reduction and growth of the sector’s contribution to Gross Domestic Product (GDP). This is in line with the 7<sup>th</sup> National Development Plan (7NDP) which sets out to create **a diversified and resilient economy** for sustained growth and socio-economic transformation, driven, among others, by agriculture. The Minister also indicated that the conference has drawn high level participation from key government ministries, embassies and other diplomatic missions accredited to the Republic of Zambia, development partners, private sector, researchers, academia, Non-Governmental Organizations (NGOs), Civil Society Organizations (CSOs), farmer organizations and faith-based organizations.

He was, therefore, confident that with the high-level participation and diversity at the conference, practical solutions will be found to address the challenges facing the agriculture sector. The Minister was also confident

that discussions from the conference will generate meaningful resolutions that would catalyse the transformation of the agriculture sector in Zambia.

### 2.1.1.3 Statement by the Minister of Fisheries and Livestock



*Hon. Nkandu Luo, MP, Minister of Fisheries and Livestock delivering her remarks*

The Minister of Fisheries and Livestock, Hon. Nkandu Luo, MP, recognised the presence of the Minister of Agriculture, Hon. Michael J. Katambo, the Director General of the SDGC/A, Permanent Secretaries, Heads of Quasi-government institutions, co-operating partners, private sector, researchers, academia, Non-Governmental Organizations (NGOs), Civil Society Organizations (CSOs), farmer organizations and faith-based organizations at the conference. The Minister joined the Minister of Agriculture, Hon. Michael J. Katambo, in welcoming all the delegates to the conference under the theme ‘Transformation of agriculture in Zambia’. The Minister observed that although more than 65% of the population is engaged in agricultural activities in Zambia, the sector has not been given the much-needed attention it deserves. Therefore, the conference has come at an appropriate time to find practical solutions to address challenges the sector has been facing. The Minister indicated that she is looking forward to practical solutions, especially for the Fisheries and Livestock sectors. She was also confident that the presentation on the ‘State of Zambia Agriculture’ will provide a good analysis and propose the way forward. The Minister observed that the role of extension services is key in agriculture and, therefore, hoped that the presentation on ‘Agriculture Extension Systems and Skills Development through TVET’ would come up with robust recommendations that could transform agriculture with the support of extension services in Zambia.

## 2.1.2 MAIN CONFERENCE PRESENTATIONS

Two key presentations were made during the conference. The first presentation was on the State of Zambian Agriculture by the Indaba Agriculture Policy Research Institute (IAPRI) and the second was on Agriculture Extension Systems and Skills Development through TVET by the SDGC/A.

### 2.1.2.1 Key messages from the presentation on the State of Zambian Agriculture



*Mr. Ballard Zulu, Researcher at IAPRI, presenting the State of Zambian Agriculture*

- Countries that have achieved positive agricultural transformation have focused their efforts and public investments on the following: research and development, extension/ education, infrastructure, irrigation, livestock production and disease control and market development.
- Zambia has focused more on agricultural subsidies, which have the lowest payoff to public expenditure.
- Maize production may actually perpetuate poverty for most smallholder farmers if the current productivity levels remain unchanged.
- Climate change needs to be at the center of agricultural transformation and zoning of the country in terms of agricultural value chains is highly recommended going forward.

### 2.1.2.2 Key messages from the presentation on Agriculture Extension Systems and Skills Development through TVET



*Mr. Donald Ndahiro, SDG Advisor at The SDGC/A presenting on Agriculture Extension Systems and Skills Development through TVET*

The focus of this presentation was to highlight key components of an extension system that has been adopted elsewhere to facilitate agricultural transformation.

A number of key messages emerged from this presentation.

- An effective extension system is critical as it provides knowledge base for all agricultural sub-sectors and is therefore, the most critical component for agricultural transformation.
- Farmers need a range of agronomic and business skills to make well-informed investment decisions for greater production and profitability.
- Agriculture transformation requires use of appropriate productivity enhancing inputs and technology to support intensification, specialization, diversification and value addition.
- There are challenges in the current agricultural extension in Zambia (National Agriculture Extension strategy 2016-2020) and these include:
  - extension staff may not have the necessary competencies and support to deliver quality services; and
  - farm institutes, farmer training centers and livestock service centers are inadequate and under-performing



and extension officer to farmer ratio is low at 1: 1,200 in some cases.

To address the challenges in the current extension system in Zambia, an Integrated Enterprise-Based approach is proposed. The approach has broad scope and specialization over time. Small-holder farmers are predominantly characterized by mixed farming. The advisory service therefore, needs to match this reality by adopting a system that will simultaneously and synergistically address these multiple issues. It is advisable that the extension system primarily focuses on improving productivity within enterprises that farmers are already engaged in before introducing new enterprises (crops or livestock) products. Start from what is known, develop farmers' confidence and enable them invest more into more prioritized enterprises for specific agro-ecologies with proven comparative advantage.

- The Integrated Enterprise-Based approach recommends:
  - multidisciplinary teams, at least four Development Agents for crop production, livestock/fisheries production, agricultural engineering and business development; and
  - the need to identify and start with few value chains in selected agro-ecological regions.
- Structure of extension delivery that should include Development Agents (DAs) based at Farmer Training Centers (FTCs) – 4 per FTC;
  - Extension Supervisors at district or block level – 1 in-charge of 5 to 7 DAs;
  - FTCs, about 20 to 28 DAs;
  - Subject Matter Specialists (SMSs) at district level – 6 to 8 depending on relevant fields of interest;
  - Main channel of extension services delivery through FTCs; and
  - Development Agents working under the supervision of extension supervisors located at the appropriate level (district or block), where extension messages are prepared by SMSs and signed off for dissemination by the FTCs.
- Summary of activities conducted at FTCs should include:
  - provide seasonal information through farm visits relevant to increasing productivity;
  - conduct a green certificate skills- based training to would-be business farmers in commodities that they will specialize in.
  - facilitate input/output markets by providing real-time information through FTCs;
  - consult farmers on business ideas, business plan, and project formulation;
  - provide technical services to farmers such as those related to animal health and plant protection; and
  - serve as a permanent exhibition center (on a minimum of 1 ha of land) where farmers visit and learn about use of improved tools and equipment, field trials and demonstrations.



- Role of extension supervisors: it is expected that each extension supervisor will be in charge of 5 to 7 FTCs and will oversee the assignment of 20 to 28 extension staff.
- Role of SMSs will depend on the potential of the district. 6 to 8 specialists will constitute the SMSs team. These may include areas of agronomy, plant protection, livestock production, veterinary, cooperatives, agriculture engineering, forest and soil conservation and socio-economics.
- Training for agriculture extension through Technical and Vocational Education and Training (TVET). The TVET is an education and training system that aims at producing human resource capable of mastering certain trades. The curricula of the TVET training is heavily skewed to the practical aspects of the education system and often times ranges between ratios of 60:40 and 80:20 for practical vs theoretical material respectively.
- Number of TVETs and focus areas will depend on the number of extension workers required to optimally stir the agriculture transformation agenda.
- Duration of the TVET course is a 3-year program that occurs after students have taken their O-level courses and exams. This will essentially replace the A-level courses for the selected TVET students. This program will not preclude those wishing to attend university after they finish the TVET program.
- Instructors/Teachers will make or break this program. There will be an intense focus on having very well-qualified instructors who will also work as mentors. Mentor teachers should be accredited as TVET teachers in their country of origin (in the case of foreign teachers) and they will preferably have at least 10 years of teaching experience in TVET.
- Infrastructure needs will include classrooms, labs, workshops and land. It is expected that there will be a nine-months period of internship/ apprenticeship for students in the final year.  
They will spend six months working in agricultural institutions such as the Ministry of Agriculture, where they can work as development agents or in research, input supply systems, and others. Then, they will spend the last three months to wind up their studies and compile final reports.
- The apprenticeship and practical work at school will adequately prepare the graduates for the accreditation process.
- For quality assurance, after graduation from the TVET program, students will sit for examinations that will test the skills that they learned during the program. If students pass this examination, they will be certified to practice in their area (similar to a medical or law license). License/accreditation will give confidence to prospective employers that the graduate possesses the necessary skills in his/her field and will be provided by an independent accreditation body.
- Post-graduation support will be offered to graduates to ensure effectiveness in their services delivery. TVETs will support continued education of existing workers in agriculture.
- Management structure will be in two phases. A project management office (PMO) will be set up to run the



first phase of the TVET program for three years. The PMO will coordinate all activities between different partners and stakeholders (ministries, certifying bodies, curriculum agencies, etc.) and will also be in-charge of establishing the management structure of the schools (headmaster, other school officials) and assist the school management with the hiring of instructors/teachers (mentors) and recruitment of students. After three years, an assessment will be conducted before moving on to a more scaled-up phase two. During phase 2, it is assumed that the PMO will be absorbed into the most relevant national institution such as the ministry of agriculture or education to ensure sustainability of the TVET program.

- There is a curriculum already developed for TVETs in agriculture. However, they may need to be modified to suit national context.

### 2.1.2.3 Plenary Session

Panellists:

- Mr Songowayo Zyambo, Permanent Secretary- Ministry of Agriculture (**Chairperson**)
- Dr Benson Mwenya, Permanent Secretary- Ministry of Fisheries and Livestock (**Co- Chair**)
- Dr Belay Begashaw, Director General-SDGC/A,
- Mr Ballard Zulu- Conference presenter and Outreach Director at IAPRI,
- Mr Donald Ndahiro- Conference presenter and SDG Advisor for Agriculture, SDGC/A



*A panel discussion on improving the state of Agriculture in Zambia*

The plenary was held just after the two key presentations and was co-chaired by Mr Songowayo Zyambo and Dr Benson Mwenya, the Permanent Secretaries of Ministry of Agriculture and Ministry of Fisheries and Livestock, respectively.

### **Issues raised and discussed during the plenary**

The first issue was on the role of maize as a ‘political’ crop that receives significant investment from the government including for subsidies and how it can be more beneficial, especially to the smallholder farmers. The need to have policy consistency, investing in research and development and addressing the issue of low productivity in agriculture. The other issue raised was on how to make the extension service more effective; understand specific areas in which skills development is required; and to better attract young people to participate in agriculture.

### **Responses:**

(i) Maize is the main staple food and is key for livestock feed. However, maize is low value bulk crop and farmers do not need to grow maize to be income secure. If farmers have an opportunity to switch to other high value chains such as livestock, horticulture, they are better off than growing maize as maize production at the current levels of productivity, may perpetuate them into poverty.

(ii) It is possible to increase maize productivity as long as everything is packaged correctly as it has happened in other countries and, therefore, it can be done in Zambia. Subsidies are not bad as long as they are smart subsidies and are given to those that are eligible. Smart subsidies such as fertilizers need to be accompanied with seeds, technologies, extension services for them to produce the intended results.

(iii) Smallholder farmers produce over 80 percent of food globally. However, agriculture productivity for example in Zambia is 2 metric tonnes/ ha, which is quite low and unacceptable. The programme of agriculture transformation is meant to increase agriculture productivity and move smallholder farmers out of poverty. If extension services, research and inputs are well-packaged, smallholder farmers can increase their productivity to 6 metric tonnes/ ha for local seeds and 8 metric tonnes/ ha for hybrid seeds and be able to break-even and make profit.

(iv) Zambia is about to sign an Africa Continental Free Trade agreement; therefore, we should be mindful of that as we discuss. The country has good policies but what is lacking is implementation and consistency. The issue is not to abandon maize production but to increase productivity so as to do away with policy inconsistency. Also, it is important to lobby for more funding for the Ministry of Agriculture to employ more extension workers to address the challenges of low agriculture productivity. The Farmer Input Support Programme (FISP) is relevant but what is needed is to graduate farmers from FISP. Therefore, in view of climate change, the government needs to look at areas where maize can do well as we diversify as a country. Therefore, we need to invest in research and development.

(v) The national development plan clearly indicates that the Government of Zambia wants agriculture to be the driver of its economy. It is, therefore, important to analyse which agriculture commodities and value chains are of high priority for the agriculture transformation agenda in order to determine the skills gap that need to be



addressed. Secondly, the attraction of young people into agriculture could be promoted through modernizing the sector, use of new technologies and logically, if agriculture becomes more productive and profitable, more people will be attracted to the sector.

### 2.1.3 BREAKOUT DISCUSSIONS



*Group discussions on key thematic areas related to the transformation of agriculture in Zambia*

The delegates were divided into three working groups based on three thematic areas, namely: extension system and skills development, agricultural research systems and input/ output demand and supply systems based on their areas of expertise and/or interest. Each group was assigned a facilitator and asked to appoint its own chairperson and rapporteur. The Terms of Reference (ToRs) and reporting templates were also shared with each group during the breakout session. The ToRs included: (i) to identify existing best practices and emerging/new ideas to take forward, (ii) to prioritize value chains to start with, (iii) identify suitable agri-food systems and geographic areas, (iv) to propose actions to be taken in the immediate and medium term to bring about transformation in agriculture extension, research and input/ output systems and (v) to identify what should be the three key resolutions for each thematic area. Day one ended in breakout sessions.

## 2.2 DAY TWO OF THE CONFERENCE

### 2.2.1 REPORTS FROM BREAKOUT SESSIONS BY THEMATIC AREAS



*A Team Leader presenting the outcomes of the group discussions*

In all the three thematic areas it was noted that the key actors are the same and which includes; public and private sectors, farmers and Non-Governmental Organizations (NGOs). However, the challenges were unique for each thematic area.

#### 2.2.1.1 Report from Input/ Output Demand and Supply Systems Team

##### **Key challenges highlighted under Input/output Demand and Supply Systems**

The team recognised the need to revitalize input/output demand and supply systems. The group identified key challenges such as high input costs, high post-harvest losses due to lack of storage facilities, lack of markets for inputs/outputs, weak regulatory systems and compliance to standards, and lack of support services such as finance and insurance. To address the identified challenges, the working group proposed the following actions to be undertaken in the short (1-3), medium (3-5) and long (5 years and above) terms:



Proposed actions in 1- 3 years:

- Business skills development for farmers and other service providers within the inputs/outputs value chains.
- Market infrastructure development.
- Enforcement of regulations.

Proposed actions in 3-5 years:

- Development of grades and standards for inputs and outputs.
- Enhancing access to credit through agricultural development banks which should be supported by a credit guarantee facilities.

### 2.2.1.2 Report from Extension System and Skills Development Team

#### Key challenges highlighted under Extension Systems and Skills Development Theme

The team members recognized that extension system and skills development face numerous challenges in Zambia. Some of the key challenges identified that need to be addressed in order to transform agriculture in Zambia are: inadequate resource to support training institutes/ centers and underperformance of farmer training centers, weak extension-research linkages between research institutes and extension agents, lack of extension services support for specific value chains in specific agro-ecological regions, poor road network and communication connectivity in some areas making it difficult for E-extension systems and inconsistent extension messages to farmers due to lack of collaboration among stakeholders in the agriculture sector (government and NGOs/Private sector players).

#### Best practices highlighted under Extension System and Skills Development

The team members noted that although extension and skills development face enormous challenges, there are some best practices/emerging ideas in extension and skills development. These include:

- Lead-farmer approach which bridges farmers to information and technology in the absence of extension workers.
- Farmer field schools that offer practical hands on knowledge and skills.
- E-extension approach reach out to many farmers (needs to be developed).
- Market-oriented extension approach connects farmers and their farm products to markets (needs also to be expanded to many extension workers).
- Extension services that have an emphasis on value addition with improved packaging to enhance competitiveness of Zambian products (needs further enhancement).



## Proposed Actions and Time Frame

Following the challenges identified as well as the best practices, group members of extension system and skills development proposed actions to be undertaken in the short (1-3years), medium (3-5years) and long (5 years and above) terms in order to revitalize extension system and skills development. The proposed actions were as follows:

Proposed actions in 1- 3 years:

- Revamping agriculture training centers and developing capacities among extension agents through refresher courses.
- Harmonisation of extension messages amongst the different players.
- Harmonization of conditions of service and promote performance-based incentives.
- Strengthening the linkage between research and extension.

Proposed actions in 3-5 years:

- Improve extension worker to farmer ratio through recruitment of more extension workers.

Proposed actions in 5 years and above:

- Infrastructure development (FTCs, FIs, roads).

## Proposed priority value chains

The extension and skills development group members identified the following key priority value chains for crops and livestock/fisheries: (i) crop value chains were identified according to agro-ecological regions: rice in Region I; Soya beans and groundnuts in Region II and cassava and beans in Region III. (ii) Livestock and fisheries value chains identified are: goat and honey in Region I; dairy and beef in Region II and fish in Region III.

### 2.2.1.3 Report from Research Systems Team

#### Key challenges highlighted under Research Systems Theme

The members of the research systems group recognized that research in Zambia faces a number of challenges. Some of the key challenges identified in research that need to be addressed so as to transform agriculture in Zambia are: poor research-extension linkages and lack of skills in research, limited financial support to research and low uptake of technologies from research resulting into low productivity in crops, livestock and fisheries.

#### Best practices highlighted under Research Theme

The group members noted that although research faces enormous challenges, some best practices/ emerging ideas still exist in research for crops, livestock and fisheries in Zambia and these include:

*a) Best practices/ emerging ideas in crops production are:*



- Sustainable intensification cropping systems (intercropping, green manure, use of bio-pesticides to control insects);
- Climate-smart agriculture practices (conservation agriculture, use of drought-tolerant varieties, agroforestry systems);
- Crop-livestock integration systems;
- Catchment management for soil and water improvement around agricultural systems; and
- Soils mapping and testing practices.

*b) Best practices/ emerging ideas in livestock are:*

Semi-intensive management of livestock (small ruminants tolerant to climate stress);

- Genetic improvement;
- Breed conservation;
- Local feed resource use;
- Zoning of areas according to disease prevalence; and
- Manure management and livestock-crop integrated systems.

*c) Best practices/ emerging ideas in fisheries are:*

- Fish feed production from locally available resources;
- Indigenous species management and production targeting basin specific;
- Comparative advantage in breams, kapenta and catfish (imbowa);
- Community-based management and collaborative management of natural fisheries resources systems; and
- Livestock-fish-crop integrated systems.

### **Proposed Action and Time Frame**

Following the challenges identified as well as the best practices, group members of the research theme proposed the following actions to be undertaken in the short (1-3years), medium (3-5years) and long (5 years and above) terms in order to transform research systems in Zambia.

Proposed actions in 1- 3 years:

- Revise curriculum in agriculture training institutions.
- Provide refresher courses for staff in the wake of changing circumstances (climate change, crop intensification



and diversification and integrated farming systems).

- Strengthen the linkages between research and extension.
- Reinstate the position of Research Extension Liaison Officers.

Proposed actions in 3-5 years:

- Decentralise farming systems research, especially in the wake of climate change.

Proposed actions in 5 years and above:

- Increase investment in research (human resource, capital and infrastructure).

### **Proposed priority value chains**

The research system working group identified the following key priority value chains according to agro-ecological regions in crops, livestock and fisheries:

Priority value chains identified:

#### **Region I:**

Crops: sorghum, millet, cassava, cashew-nuts and cowpeas.

Livestock and fisheries: indigenous cattle, goats, sheep, village chickens, breams and kapenta.

#### **Region II:**

Crops: maize, soybeans, sorghum and ground nuts.

Livestock and fisheries: cattle, goats, sheep, chickens and aquaculture-based breams.

#### **Region III:**

Crops: maize, soybeans, beans, cassava and rice.

Livestock and fisheries: cattle, goats, sheep, aquaculture- and natural fishery-based breams, catfish and Katenta



### 2.2.1.4 Panel Discussion



*A panel discussion was held to summarize the key outcomes of the working groups and reflect on the way forward.*

**Chairperson:** Dr Elias Ayuk, Regional Director- SDGC/A, Lusaka

**Panelists:**

- Dr Belay Begashaw, Director General- SDGC/A
- Ms Mirriam Mbazima, from Dairy Association of Zambia, representing thematic group on extension system and skills development
- Ms Andela Kangwa Ministry of Fisheries and Livestock, representing thematic group on the input/output demand and supply systems
- Mr. Daniel Chonde, from Ministry of Fisheries and Livestock, representing thematic group on the agricultural research system

Panelists were asked to comment on any missing links for transformation of agriculture in Zambia from each working group and to share key messages from the work of the groups.

**Director General of The SDGC/A, Dr Belay Begashaw**

*Identify input needs and place orders way ahead of cropping season (say 18- 24 months) to take advantage of low prices for inputs like fertilizers.*

The Director General of the SDGC/A, Dr Belay Begashaw, thanked everyone who participated in the working groups discussions and presentations. The Director General observed that in all the working groups, issues of finance came out strongly. He pointed out that although finance is important, there is the necessity to build

capacity, change work culture and put up systems in order to achieve meaningful transformation. He indicated that government can only invest if it is sure of the positive return. He observed that the input system working group did not indicate which inputs are locally available and which inputs need to be imported as not all inputs are produced locally for the transformation to take place. He stressed that it is important for the country to plan and procure inputs such as fertilizers that are not produced locally well in advance and make them available to the farmers at affordable prices. He indicated that it is critical to identify research-extension linkages and such issues can be fixed at technical and policy levels.

### The Key Message from Extension Systems Representative

*Assure quality extension services and disseminate knowledge and technologies effectively on a timely basis.*

Extension services are the backbone of agriculture as they are key for the success of farmers. The group agreed that building the capacity of extension workers for effective extension delivery is essential. Therefore, finance is critical and the government needs a budget to support extension services rather than relying on donor support. Extension workers need refresher courses and the proposed curriculum should be examined and adapted to the current curriculum. The group also observed that farmers must start adopting new technologies and move away from the old methods of tilling land using a hoe, if they are to graduate from subsistence farming. The group noted that farmers face challenges in acquiring inputs and spend more money on seed-related challenges. On research, the representative observed that farmers should have access to climate-resilient high-yielding seeds. Therefore, finance is very critical in research. It was also indicated that addressing issues of climate change through use of solar energy and empowering farmers with solar power systems is important. In conclusion, transformation will not happen without knowledge, technology and agricultural inputs. The representative indicated that finance is a major component to drive agriculture transformation in Zambia and that effective extension services delivery is critical. The representative urged all stakeholders to support the resolutions of the extension systems working group.

### The Key Message from Research Systems Representative

*Research should be responsive to industry needs to catalyse transformation of the agricultural sector.*

The Research Systems Representative observed that specific attention should be paid to the technology transfer processes and production systems such as crop, livestock, and fisheries. The representative observed that it is critical to select priority areas and focus on value chains that can have more impact on the country. It was pointed out that there is need to appreciate the country's local products such as breeds and varieties. The group emphasized that research in Zambia should respond to the needs of the industry and hence, the importance of



investing in research and capacity strengthening of research institutions for transformation to take effect. It was indicated that public-private partnership is needed for more investment in research to achieve more returns.

### The Key Message from Input and Output Systems Representative

*Encourage and facilitate value-addition at farm-gate level.*

*There is an urgent need for consistent policies and robust institutions to accompany the transformation.*

The representative indicated that it is important to strengthen research and extension linkages to reduce the knowledge gap. It was also emphasized that there is the necessity to encourage farmers to start value addition in various value chains at the farm-gate level, if the sector is to transform.

After the panelists' presentations, delegates contributed the following comments on the missing links for agriculture transformation to take place.

- (i) The conference looked at extension, input and research systems but not on marketing in the transformation of agriculture. Yet, for many projects that started in Zambia, sustainability is a challenge due to market access and opportunities.
- (ii) Transformation requires a systematic change. Therefore, there should be change in systems and mindset. Transformation without policy change is nothing. Finance has come out strongly in the discussions. Therefore, it would have been insightful to have formed an investment working group to look at where to invest and sources of funding. The involvement of the private sector can spur the transformation. It is useful to look at the value chains and develop those that benefit the majority of smallholder farmers who are the targets. There is immense potential for an extension system which is market-driven and not only production-driven.
- (iii) The agriculture sector is not a social sector. Hence, the need to review agriculture policies to commercialize research in Zambia, so that research can pay for itself.
- (iv) There is further need for stakeholder management by the Ministry of Agriculture and also a review of the institutional structure for effective performance.
- (v) It is important to identify and include stakeholders in the value chains, including civil society organizations.
- (vi) Attention needs to be given for alternative financing, putting less emphasis on government financing.



## 2.2.2 CONFERENCE RESOLUTIONS



Group photo: Organisers, presenters and key speakers of the conference on the “Transformation of agriculture in Zambia”

### The Lusaka Resolution

Participants, representing government, research institutions, academia, civil society organizations, farmers’ union and millers’ associations, at the ‘Conference on Transformation of Agriculture in Zambia’ held on 3<sup>rd</sup> and 4<sup>th</sup> December, 2019 at the Mulungushi International Conference Centre, Lusaka, Zambia jointly organized by the Sustainable Development Goals Centre for Africa (SDGCA) and the Government of Zambia.

**Observe** that agriculture is the backbone of the Zambian economy with almost 60% of the rural population depending on the sector;

**Recall** that Zambia is in a transitional food deficit with 37% of the population in Zambia estimated to be experiencing food deficit;

**Acknowledge** that ensuring food security in the country and exploring export market opportunities within the region will require increasing the productivity of crops, livestock and fisheries driven by an export-oriented diversification strategy;

**Reaffirm** that there are potentials for a variety of value chains in the three agro ecological zones of the country;

**Also Note** that, in line with the Seventh National Development Plan 2017-2021 (7NDP) of the Republic of Zambia, there is an urgent need to ensure that the agricultural sector plays a central role in accelerating progress towards Vision 2030 and the African Union Agenda 2063 without leaving anyone behind;

**Cognizant** of the numerous challenges facing agriculture in Zambia, **Call** on both state and non-state actors for actions to:

- (1) **revitalize the farming systems research** in the country by building research capacities to address relevant



issues (including climate change) with home-grown solutions that also address industry needs, and by strengthening the linkage between research and extension including repackaging of extension interventions and related inputs to upscale proven technologies and practices pertinent to major crops, fisheries and livestock production;

- (2) **develop and strengthen skills of extension agents** on technical and vocational curricula (may also involve reviewing curricula at state universities and other institutions of higher learning) for effective dissemination of established technologies and practices for value chains in all the agro-ecological zones of the country;
- (3) **facilitate the participation of smallholder farmers** in market-oriented value chains and improve their access to finance, services and inputs along with developing a proper market support system that includes market promotion, information and regulatory mechanisms to maximize the entire agriculture value-chain; and
- (4) **create a conducive environment** by revitalizing policies, infrastructure for irrigation, feeder roads, farmer training centres, among others, and institutions that ensure that seeds, fertilizers and other essential inputs' industries can sustainably support the transformation.

*Participants welcome* the richness of the discussions that took place during the conference.

*Adopted in Lusaka, Zambia this 4<sup>th</sup> Day of December 2019.*



### 2.2.3 CONCLUDING REMARKS



*Dr. Belay Begashaw, Director General of The SDGC/A, delivering his closing remarks*

The SDGC/A Director General, Dr Belay Begashaw, thanked all the delegates for participating in the conference. The Director General indicated that agriculture is critical not only to feed the population but also for economic growth and transformation. In Africa, agriculture is way of life, our pride and a venture that is cared for. He stressed that the SDGC/A desires all countries at all levels to meet all the Sustainable Development Goals Agenda 2030 with 17 broad goals, 169 targets and 232 indicators. He observed that Africa is part of the global family and member states that signed for the agenda must strive towards achieving that goal. The Director General also noted that although all SDGs are important, there are some SDGs that are more African than others and these include: SDG 2-Zero Hunger (food security), SDG 3-Good Health and Well-being and SDG 4-Quality Education. He mentioned that if all the other SDGs are met but failed to achieve the four mentioned above, it would mean that Africa has been defeated as a continent. He also stressed on the need for transformation to be effective and efficient, consistent, systematic, innovative and much importantly inclusive. He indicated that although the SDGs are for all global citizens, in reality, they are more about the 40 percent of the bottom population and most of these people are engaged in agriculture economic systems. If SDG 2-Zero hunger (food security) was met, then it would define one of the three pillars of SDGs that is inclusiveness. He mentioned that the SDGC/ A is embarking on a new pilot programme in Zambia to be implemented in two provinces, four districts, 8 camps and the total targeted beneficiaries is 500 which may be scaled up to all the provinces so that the country can become food sufficient in the short term. He indicated that the focus of the programme is to increase productivity as there is a



huge gap between current productivity levels which smallholder farmers are getting and the biological optimal. He further indicated that it is possible to increase current yields/ha if everything is packaged well; that is extension, research and inputs (workers trained, mind-set changed, provide the right inputs to farmers e.g. fertilizers, seeds, technologies through research). The Director General indicated that once productivity is increased, markets will respond and farmers will diversify into other value chains, consequently reducing pressure on natural resources. He emphasised that in the short term, the SDGC/A will focus on few areas such as maize value chain for impact purpose and scale up to other value chains in the medium/ long terms. He indicated the need for integration within government departments and between government and the private sector in order to see how extension and research systems can work together. He also mentioned that sustainable agriculture requires proper inputs so as to get good outputs.

#### 2.2.4 CLOSING REMARKS



*Mr. Songowayo Zyambo, Permanent Secretary- Ministry of Agriculture, delivering his closing remarks*

The Permanent Secretary-Ministry of Agriculture, Mr Songowayo Zyambo, thanked the Director General of The SDGC/A, Dr Belay Begashaw, cooperating partners, senior government officials, farmer organizations, private sector, researchers, academia, Non-Governmental Organizations (NGO) and Civil Society Organizations (CSO) that were present. He indicated that the government is happy to note that all stakeholders agree that the agriculture sector has the potential to develop. The recognition of the sector's potential by all stakeholders is a clear indication that the joint efforts to enhance the sector's potential are not in vain and will definitely yield the desired results.

He remarked that challenges affecting the sector were also covered during the presentations and plenary sessions. The Permanent Secretary indicated that the government appreciates the open dialogue and valuable contributions on how the sector can be transformed. He assured stakeholders that the government is committed to addressing challenges that hindered the sector from realizing its full potential. The Permanent Secretary thanked the delegates for their active participation and seriousness shown in reflecting on the issues affecting the sector during the conference. He also appreciated the delegates for putting forward practical proposals and resolutions that need to be implemented to transform the sector in line with the government's policy as outlined in the 7<sup>th</sup> National Development Plan. He noted that the conference on transformation of agriculture in Zambia alone is not enough to resolve the issues that had affected the sector for many years. However, he was comforted that there is already progressive dialogue being undertaken between government and stakeholders in the sector. The positive dialogue will ensure that the agreed resolutions from the conference will be implemented as soon as possible without fail. The Permanent Secretary emphasised that the conference should not be viewed as a mere formality but a step in the right direction to achieving positive results. He said the agriculture sector has huge markets, both locally and outside but the question is how to satisfy the huge markets. In Zambia, the hectareage for maize averaged 1.5 million year in year out but the issue is about increasing productivity to satisfy the market which was the centre of discussion during the conference. The Permanent Secretary also thanked the SDGC/A for partnering with the government in bringing together participants from across the country to take part in the conference. He said that we should all be encouraged that we can achieve transformation of the agriculture sector through collective action. He was certain that Zambia has a resilient agriculture sector that is less vulnerable to climate changes. He indicated that there is need to prioritize the measures that have been agreed upon during the conference. He assured the delegates that government is committed to ensuring that the transformation of agriculture takes effect. In conclusion, the Permanent Secretary thanked the organizers of the conference and delegates for their active participation in the conference and wished the delegates all the best as they returned to their stations.



## ANNEX

### List of Participants by Organization

- 1 Alliance for Accountability Advocacy Zambia
- 2 Bank of Zambia
- 3 Botswana High Commission
- 4 Common Grounds Network
- 5 Common Market for Eastern and Southern Africa
- 6 Common Network Ground
- 7 Consulate of Germany
- 8 Civil Society Organization- SUN
- 9 Dairy Association of Zambia
- 10 Development Bank of Zambia
- 11 Elipe Business Solutions
- 12 Embassy of Brazil
- 13 Embassy of the Democratic Republic of Congo
- 14 Embassy of Egypt
- 15 Embassy of India
- 16 Embassy of Japan
- 17 Embassy of Palestine
- 18 Embassy of Sudan
- 19 Enhanced Smallholder Agribusiness Promotion Programme
- 20 Export Trading Group
- 21 Food and Agriculture of the United Nations (FAO)
- 22 Ghana High Commission
- 23 High Commission of Republic of South Africa
- 24 International Fund for Agriculture Development
- 25 Industrial Development Cooperation
- 26 Kaypro Research Institute Zambia
- 27 Livestock Development Trust
- 28 Lusaka Chamber of Commerce and Industries



29	Millers Association of Zambia
30	Mwashibukeni Community Based Organization
32	Ministry of Finance
33	Ministry of Fisheries and Livestock
34	Namibia High Commission
35	National Agriculture Information Services
36	National Assembly
37	National Economic Advisory Council
38	National Food and Nutrition Commission
39	Non-Governmental Organization Coordinating Council
40	Pan African Radio
41	Pannar Seed
42	Performance Enhancement Programme II
43	Phoenix FM
44	Pioneer Seed
45	Planned Government Network
46	Prime TV
47	PricewaterhouseCoopers International ltd
48	Smallholder Productivity Promotion Programme
49	Seed Control Certification Institute
50	Seychelles Consulate
51	Smart Zambia
52	Sub Bailor
53	Smart Zambia Institute
54	Times of Zambia
55	United Nations Development Programme
56	United Nations High Commission for Refugees
57	University of Zambia



- 58 United Nations Young Professionals Programme
- 59 United States Agency for International Development
- 60 Value Chain Financing
- 61 Youth for Africa Renaissance and Faculty Organization
- 63 Zambia Micro and Small Traders Foundation Cooperatives Ltd
- 64 Zambia Agriculture Research Institute
- 65 Zambia Breaking News
- 66 Zambia Climate Change Network
- 67 Zambia Institute Labour and Research Development
- 68 Zambia National Broadcasting Corporation



[illegible]





**THE SUSTAINABLE  
DEVELOPMENT  
GOALS  
CENTER FOR  
AFRICA**

**HEAD OFFICE**

M. Peace Plaza, 8th Floor, Tower C  
KN 4 Avenue,  
Nyarugenge, Kigali  
P.O. Box 1240 Kigali, Rwanda  
Office: +250 788 310 004-5  
Email: [info@sdgcafrica.org](mailto:info@sdgcafrica.org)

**Sub-Regional Center for Southern Africa**

F/31/F377A, Bishops Road  
Kabulonga,  
P. O. Box 31689 Lusaka, Zambia  
OL: +260 763 033 014  
OL: +260 979 033 014  
Email: [info.lusaka@sdgcafrica.org](mailto:info.lusaka@sdgcafrica.org)